

WHAT IS CLAIMED IS:

1. An implantable device for preventing the flow of embolic material flowing about a blood vessel bifurcation zone having a first branch vessel and a second branch vessel from entering the second branch vessel, the implantable device comprising:

a deflecting portion comprising a mesh having a mesh size sufficient to allow passage of blood to an inlet of the second branch vessel substantially without hindrance whilst occluding passage to said inlet of said second branch vessel of embolic material exceeding a predetermined size; and

an anchoring portion, associated with said deflecting element, said anchoring portion bearing against a vessel wall directly opposing said inlet of said second branch vessel to anchor said device therein.

2. An implantable device according to claim 1, wherein said anchoring portion comprises an essentially cylindrically shaped body.

3. An implantable device according to claim 2, wherein said deflecting portion is an annular section of said essentially cylindrically shaped body extending for the complete circumference of said anchoring portion.

4. An implantable device according to claim 1, wherein said anchoring portion secures said deflecting element across said inlet of said second branch vessel.

5. An implantable device according to claim 1, wherein said anchoring portion is a stent adapted for insertion via the vasculature of an individual.

6. An implantable device according to claim 1, wherein said deflecting portion is integrally formed with said anchoring portion.

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7. An implantable device according to claim 1, wherein said mesh of said deflecting portion comprises an array of wires extending at or adjacent to said inlet of said second branch vessel.

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8. An implantable device according to claim 1, wherein said mesh of said deflecting portion comprises wires having a thickness between 10 – 200 μ .

9. An implantable device according to claim 8, wherein the Reynolds number for said wires under physiological conditions is between 0 and 4.

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10. An implantable device according to claim 1, wherein said predetermined size is in the range of 200 μ m - 400 μ m.

11. An implantable device according to claim 1, wherein said deflecting element is sized to span said inlet of said second branch vessel.

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12. An implantable device according to claim 1, wherein said first branch vessel is the External Carotid Artery (ECA), and said second branch vessel is the Internal Carotid Artery (ICA).

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13. A method for preventing the flow of embolic material flowing about a blood vessel bifurcation zone having a source blood vessel, a first branch vessel, and a second branch vessel from entering the second branch vessel comprising:

bearing a tubular anchoring member against a vessel wall in the bifurcation zone opposing the inlet to the second branch vessel thereby anchoring said tubular anchoring member within said bifurcation zone, and anchoring a deflecting element across the inlet of a second branch vessel, said deflecting element being configured and dimensioned to deflect embolic material exceeding a predetermined size; and

deflecting the flow of embolic material exceeding said predetermined size to said first branch vessel whilst allow passage of blood to said second branch vessel substantially without hindrance.

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14. A method according to claim 13 wherein said anchoring is accomplished with a stent.

15. A method according to claim 13, wherein said deflecting element is an annular section of said tubular anchoring member extending for the complete circumference of said tubular body.

16. A method according to claim 13, wherein said deflecting element comprises an array of wires extending at or adjacent to the inlet into said second branch vessel.

17. A method according to claim 16, wherein said wires have a thickness between 10 – 200 μ .

18. A method according to claim 13 wherein said predetermined size is in the range of 200 μ m - 400 μ m.

19. A method according to claim 13 wherein said deflecting element is sized to span said inlet of said second branch vessel.

20. A method according to claim 13 wherein said source vessel is the
5 common carotid artery (CCA), said first branch vessel is the external carotid artery (ECA) and said second branch vessel is the internal carotid artery (ICA).